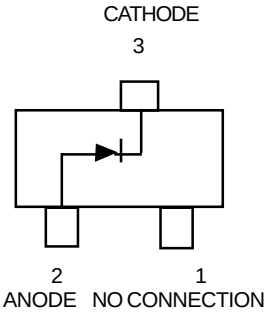
# Single Silicon Switching Diodes

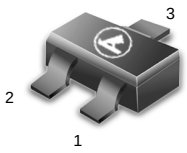
**M1MA151KT1**
**M1MA152KT1**

These Silicon Epitaxial Planar Diodes are designed for use in ultra high speed switching applications. These devices are housed in the SC-59 package which is designed for low power surface mount applications.

- Fast t rr , < 3.0 ns
- Low $C_D$ , < 2.0 pF
- Available in 8 mm Tape and Reel
  Use M1MA151/2KT1 to order the 7 inch/3000 unit reel.
  Use M1MA151/2KT3 to order the 13 inch/10,000 unit reel.

**SC-59 PACKAGE**
**SINGLE SILICON**
**SWITCHING DIODES**
**40/80 V-100mA**
**SURFACE MOUNT**




**CASE 318D–03, STYLE2**
**SC–59**

**MAXIMUM RATINGS** ($T_A$ = 25°C)

| Rating | | Symbol | Value | Unit |
|---|---|---|---|---|
| Reverse Voltage | M1MA151KT1 | $V_R$ | 40 | Vdc |
| | M1MA152KT1 | | 80 | |
| Peak Reverse Voltage | M1MA151KT1 | $V_{RM}$ | 40 | Vdc |
| | M1MA152KT1 | | 80 | |
| Forward Current | | $I_F$ | 100 | mAdc |
| Peak Forward Current | | $I_{FM}$ | 225 | mAdc |
| Peak Forward Surge Current | | $I_{FSM}$ (1) | 500 | mAdc |

**THERMAL CHARACTERISTICS**

| Rating | Symbo | IMax | Unit |
|---|---|---|---|
| Power Dissipation | $P_D$ | 200 | mW |
| Junction Temperature | $T_J$ | 150 | ℃ |
| Storage Temperature | $T_{stg}$ | -55 to +150 | ℃ |

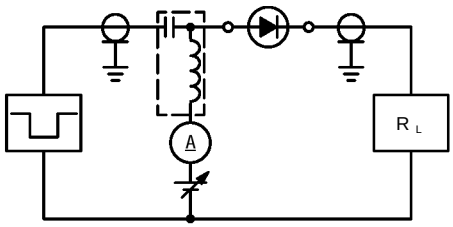
**ELECTRICAL CHARACTERISTICS** ($T_A$ = 25°C)

| Characteristic | | Symbol | Condition | Min | Max | Unit |
|---|---|---|---|---|---|---|
| Reverse Voltage Leakage Current | M1MA151KT1 | $I_R$ | $V_R$ = 35 V | — | 0.1 | μAdc |
| | M1MA152KT1 | | $V_R$ = 75 V | — | 0.1 | |
| Forward Voltage | | $V_F$ | $I_F$ = 100 mA | — | 1.2 | Vdc |
| Reverse Breakdown Voltage | M1MA151KT1 | $V_R$ | $I_R$ = 100 μA | 40 | — | Vdc |
| | M1MA152KT1 | | | 80 | — | |
| Diode Capacitance | | $C_D$ | $V_R$ = 0, f = 1.0 MHz | — | 2.0 | pF |
| Reverse Recovery Time | | $t_{rr}$ (2) | $I_F$ = 10 mA, $V_R$ = 6.0 V, $R_L$ = 100Ω, $I_{rr}$ = 0.1 $I_R$ | — | 3.0 | ns |

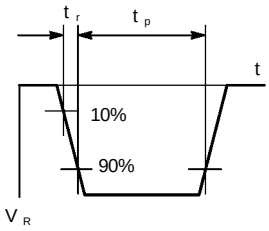
1. t = 1 SEC
2. $t_{rr}$ Test Circuit

**M1MA151KT1 M1MA152KT1**

## RECOVERY TIME EQUIVALENT TEST CIRCUIT

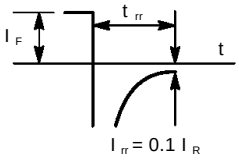



## INPUT PULSE




$t_p$ = 2 µs
$t_r$ = 0.35 ns

## OUTPUT PULSE

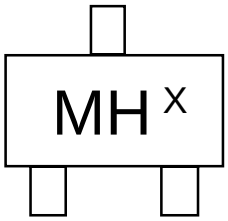



$I_F$ = 10 mA
$V_R$ = 6 V
$R_L$ = 100 Ω

## DEVICE MARKING—EXAMPLE

**Marking Symbol**

| Type No. | 151K | 152K |
|---|---|---|
| Symbol | MH | MI |




The “X” represents a smaller alpha digit Date Code. The Date Code indicates the actual month in which the part was manufactured.